

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

- 1           1. (Currently amended) A memory device storing a data structure for  
2 tracking network behavior, comprising:  
3 |           a connection table that maps each node of a network to a record ~~object~~ that  
4 stores information about traffic to or from the node and between that node and  
5 others nodes in the network.
  
- 1           2. (original) The device of claim 1 wherein the connection table includes a  
2 plurality of records that are indexed by source address.
  
- 1           3. (original) The device of claim 1 wherein the connection table includes a  
2 plurality of records that are indexed by destination address.
  
- 1           4. (original) The device of claim 1 wherein the connection table includes a  
2 plurality of records that are indexed by time.
  
- 1           5. (Currently amended) The device of claim 1 wherein the connection  
2 | table includes a plurality of records, that are record objects, which ~~that are~~  
3 indexed by source address, destination address and time.
  
- 1           6. (original) The device of claim 1 wherein the connection table is a  
2 plurality of connection sub-tables each sub-table having data pertaining to  
3 network traffic over different time scales.

1 | 7. (Currently amended) The device of ~~claim 1~~ claim 6 wherein the  
2 connection sub-tables include a time-slice connection table that operates on a  
3 small unit of time and at least one other sub-table that operates on a larger unit of  
4 time than the time slice sub-table.

1 8. (original) The device of claim 7 wherein the at one sub-table holds  
2 records received from all collectors over the time scale of the table.

1 9. (original) The device of claim 5 wherein the addresses indexing the  
2 connection table are IP addresses.

1 10 (Previously presented) The device of claim 1 wherein the addresses  
2 indexing the connection table include a physical layer address to IP address map  
3 that is used to determine Host ID.

1 11. (Currently amended) The device of claim 1 wherein the host record of  
2 a first host maps that first host to a second host that communicates with the first  
3 host to a `[[“”]]host pair record object[[“”]]` that has information about all the traffic  
4 from the first to the second host and from the second host to the first host.

1 12. (Previously presented) The device of claim 1 wherein the connection  
2 table includes two level mapping that enables a consuming device to obtain  
3 summary information about one host for a first level mapping and about the  
4 traffic between any pair of hosts, in either direction, between a first one of the  
5 hosts of the any pair to a second one of the hosts of the any pair and from the  
6 second one of the hosts of the any pair to the first one of the hosts of the any pair  
7 for a second level mapping.

1 | 13. (Currently amended) The device of claim 1 wherein the connection  
2 | table comprises a plurality of host records, a host record stores a measure of the  
3 | number of bytes, packets, and connections that occurred between hosts during a  
4 | ~~given~~ time-period.

1 | 14. (Currently Amended) The device of ~~claim 1~~ claim 13, wherein data in  
2 | the host record is organized by well known transport protocols and well-known  
3 | application-level protocols.

1 | 15. (Currently Amended) The device of ~~claim 1~~ claim 13, wherein host  
2 | records have no specific memory limit.

1 | 16. (original) The device of claim 1 wherein for application-level  
2 | protocols and for every pair of hosts, the connection table stores statistics for  
3 | traffic between the hosts.

1 | 17. (original) The device of claim 16 wherein the connection table stores  
2 | protocol-specific records as (protocol, count) key-value pairs.

1 | 18. (New) A memory device storing a data structure for tracking network  
2 | behavior, the data structure comprising:  
3 | a connection table that maps each node of a network to a record that stores  
4 | connection information about traffic to or from the node and between that node  
5 | and others nodes that have connections with the node in the network, the  
6 | connection table indexed according to at least a first one of source address,  
7 | destination address and time;  
8 | the connection table further including in the records fields for storing  
9 | statistical information for traffic between the hosts.

1           19 (New) The device of claim 18 wherein the plurality of records is record  
2 objects.

1           20. (New) The device of claim 18 wherein the connection table is a second  
2 plurality of connection sub-tables, each sub-table having data pertaining to  
3 network traffic over different ones of corresponding second plurality of time  
4 scales.

1           21. (New) The device of claim 18 wherein the connection sub-tables  
2 include a time-slice connection table that operates on a small unit of time and at  
3 least one other sub-table that operates on a larger unit of time than the time slice  
4 sub-table.

1           22. (New) The device of claim 18 wherein the at one sub-table holds  
2 records received from all collectors in the network over the time scale of the  
3 table.

1           23. (New) The device of claim 18 wherein the addresses indexing the  
2 connection table are IP addresses.

1           24. (Currently amended) The device of claim 23 wherein the addresses  
2 indexing the connection table include a physical layer address to IP address map  
3 that is used to determine Host ID.  
4

5           25. (New) The device of claim 18 wherein the host record of a first host  
6 maps that first host to a second host that communicates with the first host to a  
7 host pair record that has information about all the traffic from the first to the  
8 second host and from the second host to the first host.

1           26. (New) The device of claim 18 wherein the connection table includes  
2 two level mapping that enables a consuming device to obtain summary  
3 information about one host for a first level mapping and about the traffic between  
4 any pair of hosts, in either direction, between a first one of the hosts of the any  
5 pair to a second one of the hosts of the any pair and from the second one of the  
6 hosts of the any pair to the first one of the hosts of the any pair for a second level  
7 mapping.

1           27. (New) The device of claim 18 wherein the connection table comprises  
2 a plurality of host records, a host record stores, a measure of the number of bytes,  
3 packets, and connections that occurred between hosts during a time-period.

1           28. (New) The device of claim 27 wherein data in the host record is  
2 organized by well known transport protocols and well-known application-level  
3 protocols.

1           29. (New) The device of claim 28 wherein for application-level protocols  
2 and for every pair of hosts, the connection table stores statistics for traffic  
3 between the hosts.

1           30 (New) The device of claim 28 wherein the connection table stores  
2 protocol-specific records as (protocol, count) key-value pairs.